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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

**Application No.**

10/507,168

**Applicant(s)**

HEUTS ET AL.

**Examiner**

Michael J. Feely

**Art Unit**

1796

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 11 December 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1 and 3-34 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 and 3-34 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-8508)
- \_\_\_\_\_ Paper No(s)/Mail Date \_\_\_\_\_

- 4) ☐ Interview Summary (PTO-413)
- \_\_\_\_\_ Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Pending Claims***

Claims 1 and 3-34 are pending.

***Claim Rejections - 35 USC § 102/103***

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
2. The rejection of claims 1, 3-8, 11, 14, 15, 17-22, and 25-34 under 35 U.S.C. 102(b) as being anticipated by Neumann et al. (US Pat. No. 5,932,636) *stands for the reasons of record*.
3. The alternative rejection of claims 1, 3-8, 11, 14, 15, 17-22, and 25-34 under 35 U.S.C. 103(a) as obvious over Neumann et al. (US Pat. No. 5,932,636) also *stands for the reasons of record*.

Regarding claims 1, 3-8, 11, 14, 15, 17-22, and 25-34, Neumann et al. disclose: (I) a method of preparing a coating composition (Abstract; column 1, line 64 through column 2, line 34), comprising the steps of: combining an amine and an epoxy material in the presence of a reactive diluent (column 2, lines 62-67; column 7, lines 12-17; column 9, lines 54-56) comprising at least one methacrylate compound (column 9, line 54 through column 10, line 28) to provide a composition comprising an advanced molecular weight epoxy-amine material and a reactive diluent (column 2, lines 62-67; column 3, line 1 through column 7, line 65; column 9, lines 54-56); making an aqueous dispersion of the composition (column 2, lines 62-67); and polymerizing the reactive diluent to provide the coating composition (column 2, lines 62-67);

(3) wherein the step of making the aqueous dispersion comprises combining the composition with an acid (column 10, line 60 through column 11, line 10); (14) wherein the acid is an aqueous acid (column 10, line 60 through column 11, line 10);

(4) wherein the epoxy material is derived from bisphenol A and epichlorohydrin (column 3, line 38 through column 4, line 31);

(5) wherein the epoxy material is dissolved or dispersed in the reactive diluent (column 7, lines 12-17; column 9, lines 54-56);

(6) wherein the epoxy-amine material has residual epoxy functionality (column 7, lines 1-6); (7) further comprising the step of: reacting the epoxy-amine material having residual epoxy functionality with an active hydrogen compound or precursor (column 3, lines 29-37; column 7, lines 32-65; column 10, line 60 through column 11, line 10); (8) wherein the step of reacting is carried out before the step of making the aqueous dispersion (column 3, lines 29-37; column 7, lines 32-65; column 10, line 60 through column 11, line 10);

(11) wherein the coating composition further comprises a crosslinker (column 2, lines 62-67);

(15) wherein the step of making the aqueous dispersion comprises: combining the composition with an acid to provide an acidified composition; and combining the acidified composition with an aqueous liquid (column 10, line 60 through column 11, line 10);

(17) wherein the reactive diluent comprises a multifunctional material (column 9, line 54 through column 10, line 28);

(18) further comprising the step of: adding an additional reactive diluent before the polymerization step (column 9, line 54 through column 10, line 28);

(19) wherein the reactive diluent is polymerized by free radical polymerization (column 2, lines 62-67; column 7, lines 12-17);

(20) wherein the coating composition further comprises a solvent (column 10, line 60 through column 11, line 20: *water*; column 1, lines 64-67: *minor amounts present when "substantially free"*);

(21) wherein the coating composition is selected from the group consisting of a packaging coating composition, an anticorrosive coating composition, a stain blocker coating composition, a paper coating composition, a cement board coating composition, a fiberboard coating composition, and combinations thereof (column 11, lines 33-42);

(22) wherein the coating composition is substantially free of solvent (column 1, lines 64-67);

(25) a coating composition prepared according to the method of claim 1 (column 11, lines 33-42);

(26) a method of coating an article (column 13, lines 41-53) comprising the steps of: applying a coating composition prepared according to the method of claim 1 to an article (column 13, lines 41-53); and hardening the coating composition to provide a coated article (column 13, lines 41-53); (27) wherein the coating composition further comprises a crosslinker (column 2, lines 62-67; column 13, lines 41-53); (28) further comprising the step of heating the coated article to provide a crosslinked coating (column 13, lines 62-67); (29) wherein the step of applying comprises applying the coating composition by an electro coat process (column 13, lines 62-67);

(30) wherein the at least one methacrylate compound comprises butyl methacrylate (column 10, lines 7-24); (31) wherein the reactive diluent further comprises at least one vinyl compound (column 9, lines 58; column 10, lines 7-24); (32) wherein the at least one vinyl compound comprises styrene (column 10, lines 7-24); (33) wherein at least 7.5% by weight and at most 80% by weight reactive diluent is used, based on the total combined weight of epoxy material, amine, and reactive diluent (column 10, lines 25-28); (34) wherein at least 15% by weight and at most 50% by weight reactive diluent is used, based on the total combined weight of epoxy material, amine, and reactive diluent (column 10, lines 25-28).

With respect to the presence of the reactive diluent during combination/reaction of the amine and epoxy materials, it is not immediately clear if Neumann et al. are sufficiently specific to satisfy an anticipation of the instant invention (*see column 9, lines 54-57*). Accordingly, the claims have been alternatively rejected as obvious over Neumann et al.

Neumann et al. disclose that the reactive monomer: (a) may be already present during the synthesis of the amino-epoxy resin; (b) may be already present during the synthesis of the blocked isocyanate; (c) may be added after the synthesis of the amino-epoxy resin; or (d) may be added after the synthesis of the blocked isocyanate (*see column 9, lines 54-57*). These options are disclosed as equivalent techniques. Therefore, the selection of technique (a) would have been obvious, at the very least. Furthermore, it should be noted that technique (a) is featured in the claims of Neumann et al.

Therefore, if not explicitly taught by Neumann et al., then it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the reactive diluent during the combination/reaction of the amine and epoxy materials because Neumann et al. disclose a set

of alternative/equivalent techniques including: (a) wherein the reactive monomer is already present during the synthesis of the amino-epoxy resin.

With respect to the use of a methacrylate compound (alone or with other compounds – *see: reactive diluent comprising at least one methacrylate compound*) as the reactive diluent, it is not immediately clear if Neumann et al. are sufficiently specific to satisfy an anticipation of the instant invention (*see column 9, line 54 through column 10, line 24*). Accordingly, the claims have been alternatively rejected as obvious over Neumann et al.

Neumann et al. disclose that the unsaturated monomer includes *one or more* of any known in the art, such as vinyl monomers. These vinyl monomers include methacrylate compounds (*see column 9, line 54 through column 10, line 24*). He even mentions preference to methacrylate materials, such as n-butyl methacrylate and methyl methacrylate. Furthermore, it should be noted that methacrylate materials are featured in the claims of Neumann et al.

Therefore, it not explicitly taught by Neumann et al., then it would have been obvious to one of ordinary skill in the art at the time of the invention to use a reactive diluent comprising a methacrylate compound because Neumann et al. disclose that the unsaturated monomer includes *one or more* of any known in the art, such as vinyl monomers. Furthermore, these contemplated vinyl monomers include methacrylate compounds.

4. The rejection of claims 23 and 24 under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Neumann et al. (US Pat. No. 5,932,636) *stands for the reasons of record.*

Regarding claims 23 and 24, Neumann et al. fail to explicitly disclose: **(23 & 24)** wherein the coating composition has a volatile organic compound content of at most 0.2 kilograms per liter of solids. Rather, they disclose a composition that is *substantially free from organic solvents (see column 1, lines 64-67)*. It would appear to the skilled artisan that the instantly claimed range would have inherently fallen within the scope of *substantially free*.

Therefore, the instantly claimed VOC content would have been inherently satisfied by the teachings of Neumann et al. because they disclose a composition that is *substantially free from organic solvents*. The instantly claimed range would have inherently fallen within the scope of *substantially free*.

#### ***Claim Rejections - 35 USC § 103***

5. The rejection of claims 9 and 10 under 35 U.S.C. 103(a) as being unpatentable over Neumann et al. (US Pat. No. 5,932,636) *stands for the reasons of record*.

Regarding claims 9 and 10, Neumann et al. disclose that the amino-epoxy resins may be modified by at least one primary and/or secondary hydroxyl group, by a dialkylamino group and/or by a primary amino group which is temporarily protected by ketimine formation (*see column 3, lines 34-37*). Based on the disclosure, it appears that this modification occurs *before* the step of making the aqueous dispersion and *before* the step of polymerizing the reactive diluent. Hence, Neumann et al. fail to disclose: **(9)** wherein the step of reacting is carried out after the step of making the aqueous dispersion; and **(10)** wherein the step of reacting is carried out after the step of polymerizing the reactive diluent.



It should be noted that the limitations of the instant invention represent a change in order of process steps. In light of this, it has been found that the selection of any order of performing process steps is *prima facie* obvious in the absence of new or unexpected results. It has also been found that the selection of any order of mixing ingredients is *prima facie* obvious in the absence of new or unexpected results - *see MPEP 2144.04 IV C*.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to perform the instantly claimed order of process steps in the method of Neumann et al. because it has been found that the selection of any order of performing process steps or mixing ingredients is *prima facie* obvious in the absence of new or unexpected results.

6. The rejection of claims 1 and 3-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bremser et al. (US Pat. No. 6,201,043) *stands for the reasons of record*.

Regarding claims 1 and 3-34, Bremser et al. disclose: *(1)* a method of preparing a coating composition (Abstract), comprising the steps of: combining an amine and an epoxy material *and* a reactive diluent (Abstract) comprising at least one methacrylate compound (Abstract; column 2, line 62 through column 3, line 15; column 6, lines 47-62) to provide a composition comprising an advanced molecular weight epoxy-amine material and a reactive diluent (Abstract); making an aqueous dispersion of the composition (Abstract; column 4, lines 38-40); and polymerizing the reactive diluent to provide the coating composition (Abstract; column 6, line 63 through column 7, line 27);

*(3)* wherein the step of making the aqueous dispersion comprises combining the composition with an acid (Abstract; column 4, lines 38-40); *(13)* wherein the composition is

combined with a surfactant (column 8, lines 26-30); *(14)* wherein the acid is an aqueous acid (column 4, lines 38-40); *(24)* wherein the coating composition has a volatile organic compound content, excluding acid, of at most 0.2 kilograms per liter of solids (column 8, lines 40-44; *when little or no solvent is used*);

*(4)* wherein the epoxy material is derived from bisphenol A and epichlorohydrin (column 4, line 49 through column 5, line 53);

*(6)* wherein the epoxy-amine material has residual epoxy functionality (column 4, lines 11-21); *(7)* further comprising the step of: reacting the epoxy-amine material having residual epoxy functionality with an active hydrogen compound or precursor (column 4, lines 11-21); *(8)* wherein the step of reacting is carried out before the step of making the aqueous dispersion (column 4, lines 11-21);

*(11)* wherein the coating composition further comprises a crosslinker (column 4, lines 46-48; *mixture of epoxy-amine adducts, wherein both are capable of being crosslinkers*);

*(12)* wherein the aqueous dispersion further comprises a surfactant (column 8, lines 26-30);

*(15)* wherein the step of making the aqueous dispersion comprises: combining the composition with an acid to provide an acidified composition; and combining the acidified composition with an aqueous liquid (column 4, lines 38-40); *(16)* wherein the aqueous liquid further comprises a surfactant (column 8, lines 26-30);

*(17)* wherein the reactive diluent comprises a multifunctional material (Abstract; column 2, line 62 through column 3, line 15; column 6, lines 47-62);

(18) further comprising the step of: adding an additional reactive diluent before the polymerization step (Abstract; column 2, line 62 through column 3, line 15; column 6, lines 47-62);

(19) wherein the reactive diluent is polymerized by free radical polymerization (Abstract; column 6, line 63 through column 7, line 27);

(20) wherein the coating composition further comprises a solvent (column 8, lines 40-44);

(21) wherein the coating composition is selected from the group consisting of a packaging coating composition, an anticorrosive coating composition, a stain blocker coating composition, a paper coating composition, a cement board coating composition, a fiberboard coating composition, and combinations thereof (column 7, line 28 through column 8, line 36);

(22) wherein the coating composition is substantially free of solvent (column 8, lines 40-44: *when little or no solvent is used*);

(23) wherein the coating composition has a volatile organic compound content of at most 0.2 kilograms per liter of solids (column 8, lines 40-44: *when little or no solvent is used*);

(25) a coating composition prepared according to the method of claim 1 (Abstract; column 7, line 28 through column 8, line 36);

(26) a method of coating an article (column 11, line 25 through column 12, line 12) comprising the steps of: applying a coating composition prepared according to the method of claim 1 to an article (column 11, line 25 through column 12, line 12); and hardening the coating composition to provide a coated article (column 11, line 25 through column 12, line 12); (27) wherein the coating composition further comprises a crosslinker (column 4, lines 46-48: *mixture*

*of epoxy-amine adducts, wherein both are capable of being crosslinkers*); (28) further comprising the step of heating the coated article to provide a crosslinked coating (column 11, line 25 through column 12, line 12); (29) wherein the step of applying comprises applying the coating composition by an electro coat process (column 11, line 25 through column 12, line 12);

(30) wherein the at least one methacrylate compound comprises butyl methacrylate (column 2, line 62 through column 3, line 15; column 6, lines 47-62); (31) wherein the reactive diluent further comprises at least one vinyl compound (column 2, line 62 through column 3, line 15; column 6, lines 47-62); (32) wherein the at least one vinyl compound comprises styrene (column 2, line 62 through column 3, line 15; column 6, lines 47-62); (33) wherein at least 7.5% by weight and at most 80% by weight reactive diluent is used, based on the total combined weight of epoxy material, amine, and reactive diluent (column 6, lines 47-53); (34) wherein at least 15% by weight and at most 50% by weight reactive diluent is used, based on the total combined weight of epoxy material, amine, and reactive diluent (column 6, lines 47-53).

Bremser et al. fail to disclose the step of: (1) combining an amine and an epoxy material *in the presence of* a reactive diluent comprising at least one methacrylate compound; (5) wherein the epoxy material is dissolved or dispersed in the reactive diluent. Rather, they introduce the reactive diluent after forming the epoxy-amine adduct.

It should be noted that the limitations of the instant invention represent a change in order of process steps. In light of this, it has been found that the selection of any order of performing process steps is *prima facie* obvious in the absence of new or unexpected results. It has also been found that the selection of any order of mixing ingredients is *prima facie* obvious in the absence of new or unexpected results - *see MPEP 2144.04 IV C*.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to perform the instantly claimed order of process steps in the method of Bremser et al. because it has been found that the selection of any order of performing process steps or mixing ingredients is *prima facie* obvious in the absence of new or unexpected results.

Bremser et al. also fail to disclose: **(9)** wherein the step of reacting (*see claim 7*) is carried out *after the step of making the aqueous dispersion*; **(10)** wherein the step of reacting (*see claim 7*) is carried out *after the step of polymerizing the reactive diluent*; and **(13)** wherein the composition is combined with a surfactant *before combining the composition with the acid*.

Again, it should be noted that the limitations of the instant invention represent a change in order of process steps. In light of this, it has been found that the selection of any order of performing process steps is *prima facie* obvious in the absence of new or unexpected results. It has also been found that the selection of any order of mixing ingredients is *prima facie* obvious in the absence of new or unexpected results - *see MPEP 2144.04 IV C*.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to perform the instantly claimed order of process steps in the method of Bremser et al. because it has been found that the selection of any order of performing process steps or mixing ingredients is *prima facie* obvious in the absence of new or unexpected results.

7. The rejection of claims 12, 13, and 16 under 35 U.S.C. 103(a) as being unpatentable over Neumann et al. (US Pat. No. 5,932,636) in view of Bremser et al. (US Pat. No. 6,201,043) *stands for the reasons of record*.

Regarding claims 13, 13, and 16, the analogous teachings are Neumann et al. and Bremser et al. are as set forth above and incorporated herein. Neumann et al. are silent regarding the use of surfactants; however, Bremser et al. disclose that these are *customary auxiliaries* for this type of composition. Furthermore, any sequence of adding this surfactant would have been *prima facie* obvious in the absence of new or unexpected results.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to add a surfactant, as taught by Bremser et al., in the composition of Neumann et al. because the teachings of Bremser et al. demonstrate that surfactants are *customary auxiliaries* for this type of composition. Furthermore, any sequence of adding this surfactant would have been *prima facie* obvious in the absence of new or unexpected results.

#### ***Response to Arguments***

8. Applicant's arguments, filed December 11, 2008, with respect to Neumann et al. have been considered but they are not persuasive.

Regarding the presence of the epoxy/amine reactants, Applicant argues that Neumann et al. do not provide proper guidance for these materials because: *Neumann's ionic resin (A) can be selected from an ionic epoxy resin that may or may not include amine*.

It should be first noted that Neumann et al. present the amino-epoxy resins as *preferred* materials (see column 2, lines 62-67; column 3, lines 1-38). Furthermore, the amino-epoxy resins are *exemplified and claimed*. This is ample guidance to satisfy this limitation. Therefore, if not explicitly taught, then the selection of amino-epoxy resins (and reactants thereof) would have been obvious to the skilled artisan at the time of the invention.

Regarding the reactive diluent, Applicant states that they discovered “preferred reactive diluents include vinyl compounds, methacrylate compounds, and combinations thereof.” They further state that “acrylate compounds are not preferred as reactive diluents, because acrylate monomers *may be reactive* in the presence of an amine and an epoxy material;” and, “*reactive diluents* refers to monomers and/or oligomers that are substantially non-reactive with the epoxy material and/or amine under the conditions used to prepare the epoxy-amine.” In light of this, they argue that Neumann et al. provide insufficient guidance for one of skill in the art to combine an amine and an epoxy material in the presence of a methacrylate reactive diluent.

It should first be noted that Applicant has not provided any comparative data to demonstrate the shortcomings of acrylate compounds, when compared to methacrylate compounds. They also fail to identify what scenarios acrylate monomers *may or may not be reactive* in the presence of the amine and epoxy materials.

Secondly, it should be noted that Neumann et al. disclose an unsaturated monomer including *one or more* of any known in the art, such as vinyl monomers. These vinyl monomers include methacrylate compounds (*see column 9, line 54 through column 10, line 24*). They even mention *preference* to methacrylate materials, such as n-butyl methacrylate and methyl methacrylate. Furthermore, these materials are featured in the *claims* of Neumann et al. This is ample guidance to satisfy this limitation. Therefore, it not explicitly taught, then the selection of a reactive diluent comprising a methacrylate compound would have been obvious to the skilled artisan at the time of the invention.

Lastly, it should be noted that the language of the claims does not explicitly exclude the use of acrylate monomers. As stated by the Applicants, acrylate monomers *may be reactive* in

the presence of an amine and an epoxy material. Apparently this is not always the case, as suggested by the use of the language *may be*. Furthermore, the reactive diluent is presented with the open language of comprising: *a reactive diluent comprising at least one methacrylate compound*. Therefore, it can feature other materials in combination with the at least one methacrylate compound. These other materials would appear to include acrylate compounds, which may (*or may not*) be reactive in the presence of an amine and an epoxy material.

Regarding the presence of the reactive diluent in the reaction mixture, Applicant argues that Neumann et al. do not clearly teach that *the preference* is for monomers already present during the synthesis of the amino-epoxy resin.

It should be first noted that, “The use of patents as references is not limited to what the patentees describe as their own inventions or to the problems with which they are concerned. They are part of the literature of the art, relevant for all they contain,” – *In re Heck*, 699 F.2d 1331, 1332-33, 216 USPQ 1038, 1039 (Fed. Cir. 1983) (quoting *In re Lemelson*, 397 F.2d 1006, 1009, 158 USPQ 275, 277 (CCPA 1968)). Furthermore, it should be noted that *non-preferred* and alternative embodiments constitute prior art – *see MPEP 2123*.

It should be further noted that Neumann et al. disclose that the reactive monomer: (a) may be already present during the synthesis of the amino-epoxy resin; (b) may be already present during the synthesis of the blocked isocyanate; (c) may be added after the synthesis of the amino-epoxy resin; or (d) may be added after the synthesis of the blocked isocyanate (*see column 9, lines 54-57*). These options are disclosed as equivalent techniques. Furthermore, it should be noted that technique (a) is featured in the *claims* of Neumann et al. This is ample guidance to



satisfy this limitation. Therefore, it not explicitly taught, then the selection of technique (a) would have been obvious to the skilled artisan at the time of the invention.

9. Applicant's arguments, filed December 11, 2008, with respect to Bremser et al. have been fully considered but they are not persuasive.

Applicants argue that combining an amine and an epoxy material in the presence of a reactive diluent can lead to results that are advantageous over introducing a reactive diluent after forming the epoxy-amine adduct because: (a) this technique is a solution to solve the problem of using *excess* organic solvent; and (b) this technique can allow for the preparation of waterborne coating compositions that *are substantially free of solvent and/or have low volatile organic compound content*. They further argue that Bremser et al. use substantial amounts of solvent in their preparation technique, as indicated by solids content.

It should be first noted that only dependent claims 20 and 22 address the presence of *solvent*, wherein neither of these of these claims feature a "solids basis". Claim 22 calls for a coating composition substantially free of solvent, and claim 20 actually calls for the *presence* of solvent, inclusive of *excess* and *low content*. ***The scope of the remaining claims is open to any type or amount of solvent present during the process and in the final coating composition.***

Secondly, it should be noted that only claims 23 and 24 address *low VOC content*, as discussed on pages 8-9 of the response. ***The scope of the remaining claims is open to any VOC content.***

Lastly, it should be noted that Bremser et al. *preferably* carry out their amine/epoxy reaction in an organic solvent (*see column 4, lines 34-48; column 8, lines 37-53*). Therefore, their technique is not *explicitly bound to the use of solvent*. Accordingly, this non-preferred

(solvent-free) technique would have obviously satisfied claims 20 and 22-24. Furthermore, their solvent technique further involves the steps of neutralization and conversion to an aqueous solution/dispersion (*see column 4, lines 38-40; Example 4*). This aqueous solution/dispersion is further diluted with water to form an aqueous coating composition (*see column 7, lines 28-42; Example 6*). Although the amine/epoxy reaction may take place in the presence of solvent, the final aqueous *coating composition* is diluted with water to such an extent that the final solvent content does not appear to be significant. This solvent level would have obviously satisfied the limitations of instant claims 20 and 22 because *substantially free of solvent* is not claimed with a “solids basis”.

### ***Conclusion***

10. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

***Communication***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael J. Feely whose telephone number is (571)272-1086. The examiner can normally be reached on M-F 8:30 to 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Harold Y. Pyon can be reached on 571-272-1498. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Michael J Feely/  
Primary Examiner, Art Unit 1796

March 18, 2009